

AS
address 302, device type 304 and moreover, color print function attribute 305, double-sided print function attribute 306, and staple action attribute 307 are obtained out of the registered device information which is judged as matching the search condition in step S1406. Then, in the next step S1408, the obtained pieces of information are added to search result information. When the process in step S1408 is done, step S1404 is restarted to continuously search the next device information registered in the database 300.--

IN THE CLAIMS:

Please cancel Claims 6-9, without prejudice or disclaimer of the subject matter presented therein.

Please amend Claims 1, 3-5, 10-28, 30-33, 35, and 36, and add new Claims 37-57 to read as follows. A marked-up copy of the amended claims, showing the changes made thereto, is attached.

Sub B1
1. (Amended) A device search system comprising a server unit and a client unit,

wherein said server unit comprises:

AB
database control means for controlling a database in which information for identifying a device on a network and information of various attributes of the device are registered and for executing a search for a device in accordance with a search request from said client unit, and

wherein said client unit comprises:

first generation means for generating a first condition designating one or more attributes in order to search for a desired device on the network;

recognition means for recognizing whether obtained search result information shows a presence or an absence of each attribute designated by the first condition generated by the first generation means;

second generation means for extracting a certain attribute from the first condition to generate a second condition;

search means for requesting said server unit to search the database for information of a device satisfying the second condition generated by the second generation means in response to a recognition by the recognition means that the search result information shows the absence of each attribute designated by the first condition; and

output means for outputting a search result under the first condition when the recognition means recognizes that the search result information shows the presence of each attribute designated by the first condition, and for outputting a search result under the second condition when the recognition means recognizes that the search result information shows the absence of each attribute designated by the first condition.

3. (Amended) The device search system according to claim 2, wherein said client unit further comprises;

third control means for selectively outputting the search result information

under the first condition or the search result information under the second condition in accordance with a predetermined condition.

4. (Amended) The device search system according to claim 3, wherein the third control means outputs the search result information under the first condition when a device to be outputted as the search result information under the first condition is present, and outputs the second result information when a device to be outputted as the search result information under the first condition is not present.

Sub B3 5. (Amended) The device search system according to claim 2, wherein said client unit further comprises storage means for storing symbol information corresponding to an attribute that can be designated by the first condition, and when the search result information under the second condition is outputted and when the information showing a presence or an absence of each attribute designated by the first condition is outputted, a presence or an absence of each attribute is shown in accordance with a display mode of the symbol information corresponding to each attribute.

Sub B4 10. (Amended) An apparatus for searching a database in which information for identifying a device on a network and information of various attributes of the device are registered, in accordance with a query sent to a server unit, said apparatus comprising:
first generation means for generating a first condition designating one or more

attributes in order to search for a desired device on the network;

recognition means for recognizing whether obtained search result information shows a presence or an absence of each attribute designated by the first condition generated by said first generation means;

second generation means for extracting a certain attribute from the first condition to generate a second condition;

search means for requesting the server unit to search the database information for a device satisfying the second condition generated by said second generation means in response to said recognition means recognizing that the search result information shows the absence of each attribute designated by the first condition; and

output means for outputting a search result under the first condition when said recognition means recognizes that the search result information shows the presence of each attribute designated by the first condition, and for outputting a search result under the second condition when said recognition means recognizes that the search result information shows the absence of each attribute designated by the first condition.

11. (Amended) The apparatus according to claim 10, wherein

attributes of a device controlled by the database include an indispensable attribute registered whenever a device is registered in the database and attributes other than the indispensable attribute, and

said second generation means extracts only the indispensable attribute from

attributes designated by the first condition and generates the second condition.

12. (Amended) The apparatus according to claim 11, further comprising third control means for selectively outputting the search result information under the first condition or the search result information under the second condition in accordance with a predetermined condition.

13. (Amended) The apparatus according to claim 12, wherein said third control means outputs the search result information under the first condition when a device to be outputted as the first result information is present, and outputs the search result information under the second condition when the device to be outputted as the search result information under the first condition is not present.

14. (Amended) The apparatus according to claim 11, further comprising storage means for storing symbol information corresponding to an attribute that can be designated by the first condition, wherein, when the search result information under the second condition is outputted and when information showing a presence or an absence of each attribute designated by the first condition is outputted, a presence or an absence of each attribute is shown in accordance with a display mode of the symbol information corresponding to each attribute.

15. (Amended) An apparatus for searching a database in accordance with a

B4
H8

query received from a client unit, said apparatus comprising:

execution means for executing a search in accordance with a search request from the client unit;

database control means for controlling a database in which information for identifying a device on a network and information for various attributes of the device are registered, and for controlling execution of the search for the device in accordance with the search request from the client unit;

reception means for receiving from the client unit a first condition designating one or more attributes in order to search for a desired device on the network;

recognition means for recognizing whether obtained search result information shows a presence or an absence of each attribute designated by the first condition received by said reception means;

generation means for extracting a certain attribute from the first condition to generate a second condition;

first search means for searching for a device satisfying the second condition from the database in response to a recognition by said recognition means that the search result information shows the absence of each attribute designated by the first condition; and

output means for outputting a search result under the first condition when said recognition means recognizes that the search result information shows the presence of each attribute designated by the first condition, and for outputting a search result under the second condition when said recognition means recognizes that the search result information shows the

absence of each attribute designated by the first condition.

16. (Amended) The apparatus according to claim 15, wherein attributes of a device controlled by the database include an indispensable attribute registered whenever a device is registered in the database and attributes other than the indispensable attribute, and

said generation means extracts only the indispensable attribute from attributes designated by the first condition and generates the second condition.

17. (Amended) The apparatus according to claim 16, further comprising control means for selecting the search result information under the first condition or the search result information under the second condition in accordance with a predetermined condition.

18. (Amended) The apparatus according to claim 17, wherein said control means returns the search result information under the first condition to the client unit when a device to be outputted as the search result information under the first condition is present, and returns the search result information under the second condition to the client unit when a device to be outputted as the search result information under the first condition is not present.

19. (Amended) A method for searching a database in which information for identifying a device on a network and information of various attributes of the device are

BY
AS
registered, in accordance with a query sent to a server unit, said method comprising:

a generation step of generating a first condition designating one or more attributes in order to search for a desired device on the network;

a recognition step of recognizing whether obtained search result information shows a presence or an absence of each attribute designated by the first condition generated in said generation step;

an extraction step of extracting a certain attribute from the first condition to generate a second condition;

a request step of requesting the server unit to search the database for information of a device satisfying the second condition generated in said extraction step in response to a recognition in said recognition step that the search result information shows the absence of each attribute designated by the first condition; and

an output step of outputting a search result under the first condition when said recognition step recognizes that the search result information shows the presence of each attribute designated by the first condition, and outputting a search result under the second condition when said recognition step recognizes that the search result information shows the absence of each attribute designated by the first condition.

20. (Amended) The method according to claim 19, wherein

attributes of a device controlled by the database include an indispensable attribute registered whenever a device is registered in the database and attributes other than the

indispensable attribute, and

only the indispensable attribute is extracted from attributes designated by the first condition when the second condition is generated.

BY
AA
21. (Amended) The method according to claim 20, further comprising an output control step of selectively outputting the search result information under the first condition or the search result information under the second condition in accordance with a predetermined condition.

22. (Amended) The method according to claim 21, wherein the search result information under the first condition is outputted when a device to be outputted as the search result information under the first condition is present, and the search result information under the second condition is outputted when the device to be outputted as the search result information under the first condition is not present.

23. (Amended) The method according to claim 20, further comprising a control step of controlling symbol information corresponding to an attribute that can be designated by the search result information under the second condition, wherein, when the search result information under the second condition is outputted and when information showing a presence or an absence of each attribute designated by the first condition is outputted, a presence or an absence of each attribute is shown in accordance with a display mode of symbol

information corresponding to each attribute.

24. (Amended) A method for searching a database in accordance with a query received from a client unit, said method comprising:

B4
A8
an execution step of executing a search in accordance with a search request from the client unit;

a database control step of controlling a database in which information for identifying a device on the network and information of various attributes of the device are registered, and executing a search for a device in accordance with the search request from the client unit;

a reception step of receiving from the client unit a first condition designating one or more attributes in order to search for a desired device on the network;

a recognition step of recognizing whether obtained search result information shows a presence or an absence of each attribute designated by the first condition received in said reception step;

an extraction step of extracting a certain attribute from the first condition to generate a second condition;

a search step of searching for a device satisfying the second condition from the database in response to a recognition in said recognition step that the search result information shows the absence of each attribute designated by the first condition; and

an output step of outputting a search result under the first condition when said

recognition step recognizes that the search result information shows the presence of each attribute designated by the first condition, and outputting a search result under the second condition when said recognition step recognizes that the search result information shows the absence of each attribute designated by the first condition.

25. (Amended) The method according to claim 24, wherein
attributes of a device controlled by the database include an indispensable attribute registered whenever a device is registered in the database and attributes other than the indispensable attribute, and
only the indispensable attribute is extracted from attributes designated by the first condition when the second condition is generated.

26. (Amended) The method according to claim 25, further comprising a selection step of selecting the search result information under the first condition or the search result information under the second condition in accordance with a predetermined condition and returning the selected search result information to the client unit.

27. (Amended) The method according to claim 26, wherein
the search result information under the first condition is returned to the client unit when a device to be outputted as the search result information under the first condition is present, and

the search result information under the second condition is returned to the client unit when the device to be outputted as the search result information under the first condition is not present.

BH
AS
28. (Amended) A storage medium storing a computer program to be executed by a computer to implement a method for searching a database in which information for identifying a device on a network and information of various attributes of the device are registered, in accordance with a query sent to a server unit, wherein the method comprises:


a generation step of generating a first condition designating one or more attributes in order to search for a desired device on the network;


a recognition step of recognizing whether obtained search result information shows a presence or an absence of each attribute designated by the first condition generated in the generation step;

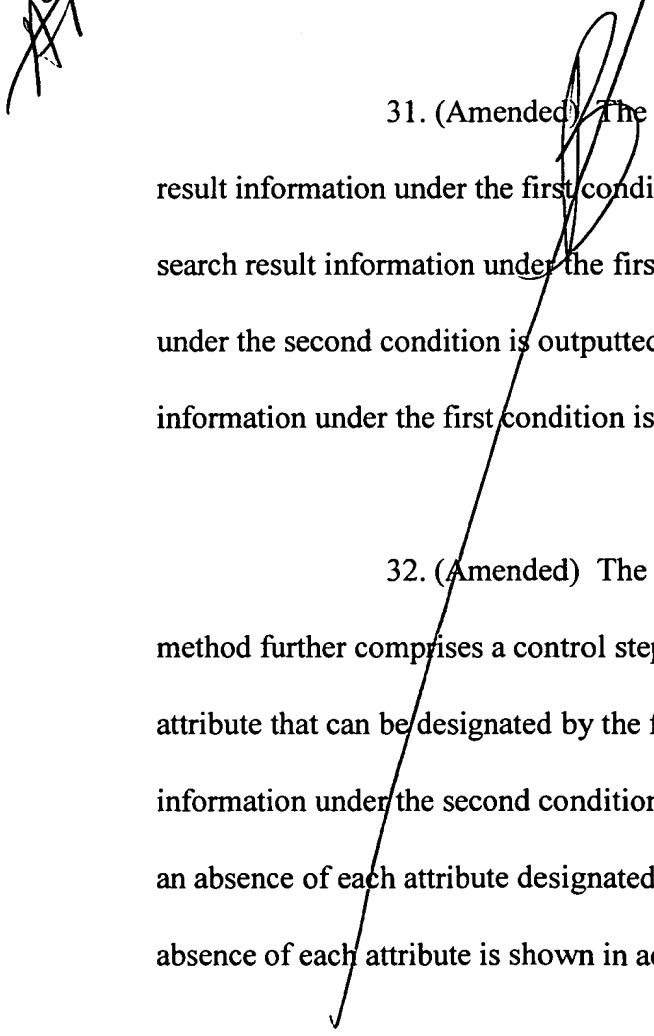
an extraction step of extracting a certain attribute from the first condition to generate a second condition;

a request step of requesting server unit to search the database for information of a device satisfying the second condition generated in the extraction step in response to a recognition in the recognition step that the search result information shows the absence of each attribute designated by the first condition; and

an output step of outputting a search result under the first condition when the recognition step recognizes that the search result information shows the presence of each

 attribute designated by the first condition, and outputting a search result under the second condition when the recognition step recognizes that the search result information shows the absence of each attribute designated by the first condition.

 30. (Amended) The storage medium according to claim 29, wherein the method further comprises an output control step of selectively outputting the search result information under the first condition or the search result information under the second condition in accordance with a predetermined condition.

 31. (Amended) The storage medium according to claim 30, wherein the search result information under the first condition is outputted when a device to be outputted as the search result information under the first condition is present, and the search result information under the second condition is outputted when the device to be outputted as the search result information under the first condition is not present.

32. (Amended) The storage medium according to claim 29, wherein the method further comprises a control step of controlling symbol information corresponding to an attribute that can be designated by the first condition, wherein, when the search result information under the second condition is outputted and when information showing a presence or an absence of each attribute designated by the first condition is outputted, a presence or an absence of each attribute is shown in accordance with a display mode of symbol information

corresponding to each attribute.

540
B5 33. (Amended) A storage medium storing a computer program to be executed by a computer to implement a method for searching a database in accordance with query received from a client unit, wherein the method comprises:

an execution step of executing a search in accordance with a search request from the client unit;

a database control step of controlling a database in which information for identifying a device on the network and information for various attributes of the device, and executing a search of a device in accordance with the search request from the client unit;

a reception step of receiving from the client unit a first condition designating one or more attributes in order to search for a desired device on the network;

a recognition step of recognizing whether obtained search result information shows a presence or an absence of each attribute designated by the first condition received in the reception step;

an extraction step of extracting a certain attribute from the first condition to generate a second condition;

a search step of searching for a device satisfying the second condition from the database in response to a recognition in the recognition step that the search result information shows the absence of each attribute designated by the first condition; and

an output step of outputting a search result under the first condition when the

AG
B5
recognition step recognizes that the search result information shows the presence of each attribute designated by the first condition, and outputting a search result under the second condition when the recognition step recognizes that the search result information shows the absence of each attribute designated by the first condition.

35. (Amended) The storage medium according to claim 34, wherein the method further comprises a selection step of selecting the search result information under the first condition or the search result information under the second condition in accordance with a predetermined condition and returning the selected search result information to the client unit.

36. (Amended) The storage medium according to claim 35, wherein the search result information under the first condition is returned to the client unit when a device to be outputted as the search result information under the first condition is present, and the search result information under the second condition is returned to the client unit when the device to be outputted as the search result information under the first condition is not present.

Sub B6
37. (New) A system according to claim 1, wherein the second condition is determined based on at least one of a color printing attribute, a finishing attribute, and a print layout attribute, and the output means displays on a display unit at least one printer identifier that

corresponds to a printer satisfying the second condition.

38. (New) An apparatus according to claim 10, wherein the second condition is determined based on at least one of a color printing attribute, a finishing attribute, and a print layout attribute, and said output means displays on a display unit at least one printer identifier that corresponds to a printer satisfying the second condition.

39. (New) An apparatus according to claim 15, wherein the second condition is determined based on at least one of a color printing attribute, a finishing attribute, and a print layout attribute, and said output means displays on a display unit at least one printer identifier that corresponds to a printer satisfying the second condition.

40. (New) A method according to claim 19, wherein the second condition is determined based on at least one of a color printing attribute, a finishing attribute, and a print layout attribute, and said output step outputs to a display unit at least one printer identifier that corresponds to a printer satisfying the second condition.

41. (New) A method according to claim 24, wherein the second condition is determined based on at least one of a color printing attribute, a finishing attribute, and a print layout attribute, and said output step outputs to a display unit at least one printer identifier that corresponds to a printer satisfying the second condition.

B6
Att

42. (New) A storage medium according to claim 28, wherein the second condition is determined based on at least one of a color printing attribute, a finishing attribute, and a print layout attribute, and the output step outputs to a display unit at least one printer identifier that corresponds to a printer satisfying the second condition.

43. (New) A storage medium according to claim 33, wherein the second condition is determined based on at least one of a color printing attribute, a finishing attribute, and a print layout attribute, and the output step outputs to a display unit at least one printer identifier that corresponds to a printer satisfying the second condition.

44. (New) A computer program product embodying a computer program for implementing a method for searching a database in which information for identifying a device on a network and information of various attributes of the device are registered, in accordance with a query sent to a server unit, wherein the method comprises:

a generation step of generating a first condition designating one or more attributes in order to search for a desired device on the network;

a recognition step of recognizing whether obtained search result information shows a presence or an absence of each attribute designated by the first condition generated in the generation step;

an extraction step of extracting a certain attribute from the first condition to generate a second condition;

B6
AH

a request step of requesting server unit to search the database for information of a device satisfying the second condition generated in the extraction step in response to a recognition in the recognition step that the search result information shows the absence of each attribute designated by the first condition; and

an output step of outputting a search result under the first condition when the recognition step recognizes that the search result information shows the presence of each attribute designated by the first condition, and outputting a search result under the second condition when the recognition step recognizes that the search result information shows the absence of each attribute designated by the first condition.

45. (New) The program product according to claim 44, wherein attributes of a device controlled by the database include an indispensable attribute registered whenever a device is registered in the database and attributes other than the indispensable attribute, and

only the indispensable attribute is extracted from attributes designated by the first condition when the second condition is generated.

46. (New) The program product according to claim 45, wherein the method further comprises an output control step of selectively outputting the search result information under the first condition or the search result information under the second condition in accordance with a predetermined condition.

Be
A/H

47. (New) The program product according to claim 46, wherein the search result information under the first condition is outputted when a device to be outputted as the search result information under the first condition is present, and the search result information under the second condition is outputted when the device to be outputted as the search result information under the first condition is not present.

48. (New) The program product according to claim 45, wherein the method further comprises a control step of controlling symbol information corresponding to an attribute that can be designated by the first condition, wherein, when the search result information under the second condition is outputted and when information showing a presence or an absence of each attribute designated by the first condition is outputted, a presence or an absence of each attribute is shown in accordance with a display mode of symbol information corresponding to each attribute.

49. (New) A program product according to claim 44, wherein the second condition is determined based on at least one of a color printing attribute, a finishing attribute, and a print layout attribute, and the output step outputs to a display unit at least one printer identifier that corresponds to a printer satisfying the second condition.

50. (New) A computer program product embodying a computer program for implementing a method for searching a database in accordance with query received from a client

unit, wherein the method comprises:

an execution step of executing a search in accordance with a search request from the client unit;

B6
AH
a database control step of controlling a database in which information for identifying a device on the network and information for various attributes of the device, and executing a search of a device in accordance with the search request from the client unit;

a reception step of receiving from the client unit a first condition designating one or more attributes in order to search for a desired device on the network;

a recognition step of recognizing whether obtained search result information shows a presence or an absence of each attribute designated by the first condition received in the reception step;

an extraction step of extracting a certain attribute from the first condition to generate a second condition;

a search step of searching for a device satisfying the second condition from the database in response to a recognition in the recognition step that the search result information shows the absence of each attribute designated by the first condition; and

an output step of outputting a search result under the first condition when the recognition step recognizes that the search result information shows the presence of each attribute designated by the first condition, and outputting a search result under the second condition when the recognition step recognizes that the search result information shows the absence of each attribute designated by the first condition.

B6
A4

51. (New) The program product according to claim 50, wherein attributes of a device controlled by the database include an indispensable attribute registered whenever a device is registered in the database and attributes other than the indispensable attribute, and

only the indispensable attribute is extracted from attributes designed by the first condition when the second condition is generated.

52. (New) The program product according to claim 51, wherein the method further comprises a selection step of selecting the search result information under the first condition or the search result information under the second condition in accordance with a predetermined condition and returning the selected search result information to the client unit.

53. (New) The program product according to claim 52, wherein the search result information under the first condition is returned to the client unit when a device to be outputted as the search result information under the first condition is present, and

the search result information under the second condition is returned to the client unit when the device to be outputted as the search result information under the first condition is not present.

54. (New) A program product according to claim 50, wherein the second

B6
A4

condition is determined based on at least one of a color printing attribute, a finishing attribute, and a print layout attribute, and the output step outputs to a display unit at least one printer identifier that corresponds to a printer satisfying the second condition.

55. (New) A device search system comprising a server unit and a client unit, wherein said server unit comprises:

a database control unit adapted to control a database in which information for identifying a device on a network and information of various attributes of the device are registered and to execute a search for a device in accordance with a search request from said client unit, and

wherein said client unit comprises:

a first generation unit adapted to generate a first condition designating one or more attributes in order to search a desired device on the network;

a recognition unit adapted to recognize whether obtained search result information shows a presence or an absence of each attribute designated by the first condition generated by the first generation unit;

a second generation unit adapted to extract a certain attribute from the first condition to generate a second condition;

a search unit adapted to request said server unit to search the database for information of a device satisfying the second condition generated by the second generation unit in response to a recognition by the recognition unit that the search result information shows

B6
A4

the absence of each attribute designated by the first condition; and

an output unit adapted to output a search result under the first condition when the recognition unit recognizes that the search result information shows the presence of each attribute designated by the first condition, and to output a search result under the second condition when the recognition unit recognizes that the search result information shows the absence of each attribute designated by the first condition.

56. (New) An apparatus for searching a database in which information for identifying a device on a network and information of various attributes of the device are registered, in accordance with a query sent to a server unit, said apparatus comprising:

a first generation unit adapted to generate a first condition designating one or more attributes in order to search for a desired device on the network;

a recognition unit adapted to recognize whether obtained search result information shows a presence or an absence of each attribute designated by the first condition generated by said first generation unit;

a second generation unit adapted to extract a certain attribute from the first condition to generate a second condition;

a search unit adapted to request the server unit to search the database information for a device satisfying the second condition generated by said second generation unit in response to said recognition unit recognizing that the search result information shows the absence of each attribute designated by the first condition; and

an output unit adapted to output a search result under the first condition when said recognition unit recognizes that the search result information shows the presence of each attribute designated by the first condition, and to output a search result under the second condition when said recognition unit recognizes that the search result information shows the absence of each attribute designated by the first condition.

57. (New) An apparatus for searching a database in accordance with a query received from a client unit, said apparatus comprising:

an execution unit adapted to execute a search in accordance with a search request from the client unit;

a database control unit adapted to control a database in which information for identifying a device on a network and information for various attributes of the device are registered, and to control execution of the search for the device in accordance with the search request from the client unit;

a reception unit adapted to receive from the client unit a first condition designating one or more attributes in order to search for a desired device on the network;

a recognition unit adapted to recognize whether obtained search result information shows a presence or an absence of each attribute designated by the first condition received by said reception unit;

a generation unit adapted to extract a certain attribute from the first condition to generate a second condition;